142968

SEVERN TRENT SERVICES

STL Sacramento
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West Sacramento, CA 95605-1500

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October 23, 2000

STL SACRAMENTO PROJECT NUMBER: G0I280336

Rae Mindock
RMT Inc.
222 S Riverside Plaza
Suite 820
Chicago, IL 60606-5901

Dear Ms. Mindock,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on 9/28/00. These samples are associated with your 4962.01 project.

The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916)374-4408.

Sincerely,

Kathy Gill

Kathy Gill
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G0I280336

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G0I280336

SOLID, 8280, Dioxins/Furans, HRGC/LRMS

The associated Laboratory Control Sample has high recovery of PeCDD and PeCDF. Two field samples (2 and 3) have no positives detected for these analytes and there is no impact on the data. Sample 1 was reextracted and reanalyzed with a new LCS because it did have positives detected. The sample and all associated QC were within limits.

There were no other anomalies associated with this project.

STL Sacramento

Quality Control Definitions

QC Parameter	Definition
QC Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Duplicate Control Sample (DCS)	Consist of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects. This QC is performed only if required by client or when insufficient sample is available to perform MS/MSD.
Duplicate Sample (DU)	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Laboratory Control Sample (LCS)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. An LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried through the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank (MB)	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate Spike	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.

Source: STL Sacramento® Quality Control Program, Policy QA-003, Rev. 0, 8/19/96.

Sample Summary
G0I280336

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
DL8J6	1	DSL8	9/25/00 11:30 AM	9/28/00 09:10 AM
DL8J7	2	SL71-8'	9/25/00 11:30 AM	9/28/00 09:10 AM
DL8J8	3	SL68-8'	9/25/00 11:30 AM	9/28/00 09:10 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must no be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weigh

SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

STL W. Sacramento

Report To:
Contact: Rax Minlock
Company: RMT
Address: 222 S. Riverside Plaza Suite 820 Chicago, IL 60606
Phone: 312 575 0200
Fax: 312 575 0300
E-Mail:

Bill To:
Contact: ← Same
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 1

Lab Lot#

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

Sampler Name:	Signature:
H. Sims	
Project Name:	**Project Number:**
Riverdale	496201
Project Location:	**Date Required** Hard Copy: ___/___/___ Fax: ___/___/___
Lab PM: Kelly Gill	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Refrg #	# / Cont.	Volume	Preserv	Dioxin 8280	Additional Analyses / Remarks
		DSL8	9.25.00	11:30	S	C					X	
		SL71-8'	9.25.00	11:30	S	G					X	
		SL68-8'	9.25.00	11:30	S	G					X	

RECEIVED IN GOOD CONDITION UNDER COC
SEP 28 2000
INI: LBS

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	RMT	9/26/00			STL-W.SAC	9-28-00	1130
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received / /
Courier: Hand Delivered ☐
Bill of Lading

SEVERN TRENT SERVICES

LOT RECEIPT CHECKLIST

STL Sacramento

CLIENT RMT PM KG LOG # 5613

LOT# (QUANTIMS ID) GOT280336 QUOTE# 38342 LOCATION WIB

	Initials	Date
	GC	9-28-00

DATE RECEIVED 9-28-00 TIME RECEIVED 0910

DELIVERED BY
- [x] FEDEX
- [ ] CA OVERNIGHT
- [ ] CLIENT
- [ ] AIRBORNE
- [ ] GOLDENSTATE
- [ ] DHL
- [ ] UPS
- [ ] BAX GLOBAL
- [ ] GO-GETTERS
- [ ] QES COURIER
- [ ] B & B
- [ ] OTHER _____

CUSTODY SEAL STATUS [x] INTACT [ ] BROKEN [ ] N/A

CUSTODY SEAL #(S) TAPE

SHIPPPING CONTAINER(S) [ ] STL [x] CLIENT [ ] N/A

TEMPERTURE RECORD (IN °C) IR 1 [ ] 2 [x] [ ] OTHER _____

COC #(S) _____

TEMPERATURE BLANK _____

AMBIENT TEMPERATURE 5°

COLLECTOR'S NAME: [ ] Verified from COC [x] Not on COC

pH MEASURED [ ] YES [ ] ANOMALY [x] N/A

LABELED BY..... dp

LABELS CHECKED BY.....

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING

WETCHEM [x] N/A

[ ] METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL [x] N/A

[x] COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES [ ] N/A

[ ] Clouseau [ ] TEMPERATURE EXCEEDED (2 °-6 °C) [x] N/A GC 9-28-00

[x] WET ICE GC 9-28-00 [x] BLUE ICE [ ] GEL PACK

[ ] PM NOTIFIED [ ] NO COOLING AGENTS USED

Notes: _____

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES. QA185 8/00 NEK

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA *																				
VOAh *																				
____AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
250AGBna																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
____CGJ																				
500CGJ																				
250CGJ																				
125CGJ	1	1	1																	
____PB/PJ																				
____PBn/PJn																				
500PB/PJ																				
500PBn/PJn																				
500PBna																				
500PBzn/na																				
250PB																				
250PBn																				
250PBna																				
250PBzn/na																				
____°CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid   *s* = sulfuric acid   *na* = sodium hydroxide   *n* = nitric acid   *zn* = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

SOLID, 8280, Dioxins/Furans, HRGC/LRMS

RMT

Client Sample ID: DSL8

Trace Level Organic Compounds

Lot-Sample #...: G0I280336-001 Work Order #...: DL8J6202 Matrix.....: SOLID
Date Sampled...: 09/25/00 Date Received..: 09/28/00
Prep Date.....: 10/16/00 Analysis Date..: 10/18/00
Prep Batch #...: 0292485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	25 E	--	ng/g	SW846 8280
Total TCDD	25	--	ng/g	SW846 8280
1,2,3,7,8-PeCDD	ND	0.79	ng/g	SW846 8280
Total PeCDD	ND	0.79	ng/g	SW846 8280
1,2,3,4,7,8-HxCDD	ND	0.27	ng/g	SW846 8280
1,2,3,6,7,8-HxCDD	ND	0.25	ng/g	SW846 8280
1,2,3,7,8,9-HxCDD	ND	0.24	ng/g	SW846 8280
Total HxCDD	ND	0.24	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDD	ND	1.2	ng/g	SW846 8280
Total HpCDD	ND	1.2	ng/g	SW846 8280
OCDD	ND	1.8	ng/g	SW846 8280
2,3,7,8-TCDF	0.57	--	ng/g	SW846 8280
Total TCDF	3.0	--	ng/g	SW846 8280
1,2,3,7,8-PeCDF	ND	0.48	ng/g	SW846 8280
2,3,4,7,8-PeCDF	ND	0.44	ng/g	SW846 8280
Total PeCDF	0.78	--	ng/g	SW846 8280
1,2,3,4,7,8-HxCDF	ND	0.16	ng/g	SW846 8280
1,2,3,6,7,8-HxCDF	ND	0.14	ng/g	SW846 8280
2,3,4,6,7,8-HxCDF	ND	0.17	ng/g	SW846 8280
1,2,3,7,8,9-HxCDF	ND	0.16	ng/g	SW846 8280
Total HxCDF	ND	0.14	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDF	ND	0.71	ng/g	SW846 8280
1,2,3,4,7,8,9-HpCDF	ND	0.91	ng/g	SW846 8280
Total HpCDF	ND	0.71	ng/g	SW846 8280
OCDF	ND	0.30	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	74	(40 - 120)
13C-2,3,7,8-TCDF	73	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	74	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	74	(40 - 120)
13C-OCDD	66	(40 - 120)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

RMT

Client Sample ID: SL71-8'

Trace Level Organic Compounds

Lot-Sample #...: G0I280336-002 **Work Order #...:** DL8J7102 **Matrix.....:** SOLID
Date Sampled...: 09/25/00 **Date Received..:** 09/28/00
Prep Date.....: 09/30/00 **Analysis Date..:** 10/03/00
Prep Batch #...: 0276488
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.042	ng/g	SW846 8280
Total TCDD	ND	0.042	ng/g	SW846 8280
1,2,3,7,8-PeCDD	ND	0.030	ng/g	SW846 8280
Total PeCDD	ND	0.50	ng/g	SW846 8280
1,2,3,4,7,8-HxCDD	ND	0.021	ng/g	SW846 8280
1,2,3,6,7,8-HxCDD	ND	0.021	ng/g	SW846 8280
1,2,3,7,8,9-HxCDD	ND	0.020	ng/g	SW846 8280
Total HxCDD	ND	0.020	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDD	ND	0.018	ng/g	SW846 8280
Total HpCDD	ND	0.018	ng/g	SW846 8280
OCDD	ND	0.027	ng/g	SW846 8280
2,3,7,8-TCDF	ND	0.11	ng/g	SW846 8280
Total TCDF	ND	0.11	ng/g	SW846 8280
1,2,3,7,8-PeCDF	ND	0.20	ng/g	SW846 8280
2,3,4,7,8-PeCDF	ND	0.19	ng/g	SW846 8280
Total PeCDF	ND	0.19	ng/g	SW846 8280
1,2,3,4,7,8-HxCDF	ND	0.013	ng/g	SW846 8280
1,2,3,6,7,8-HxCDF	ND	0.013	ng/g	SW846 8280
2,3,4,6,7,8-HxCDF	ND	0.014	ng/g	SW846 8280
1,2,3,7,8,9-HxCDF	ND	0.015	ng/g	SW846 8280
Total HxCDF	ND	0.013	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDF	ND	0.016	ng/g	SW846 8280
1,2,3,4,7,8,9-HpCDF	ND	0.019	ng/g	SW846 8280
Total HpCDF	ND	0.016	ng/g	SW846 8280
OCDF	ND	0.024	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	77	(40 - 120)
13C-2,3,7,8-TCDF	79	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	85	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	87	(40 - 120)
13C-OCDD	83	(40 - 120)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RMT

Client Sample ID: SL68-8'

Trace Level Organic Compounds

Lot-Sample #...: G0I280336-003 **Work Order #...:** DL8J8102 **Matrix.....:** SOLID
Date Sampled...: 09/25/00 **Date Received..:** 09/28/00
Prep Date.....: 09/30/00 **Analysis Date..:** 10/03/00
Prep Batch #...: 0276488
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	**6.7**	--	**ng/g**	**SW846 8280**
Total TCDD	**6.7**	--	**ng/g**	**SW846 8280**
1,2,3,7,8-PeCDD	ND	0.64	ng/g	SW846 8280
Total PeCDD	ND	0.64	ng/g	SW846 8280
1,2,3,4,7,8-HxCDD	ND	0.17	ng/g	SW846 8280
1,2,3,6,7,8-HxCDD	ND	0.18	ng/g	SW846 8280
1,2,3,7,8,9-HxCDD	ND	0.17	ng/g	SW846 8280
Total HxCDD	ND	0.17	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDD	ND	0.16	ng/g	SW846 8280
Total HpCDD	ND	0.16	ng/g	SW846 8280
OCDD	ND	0.74	ng/g	SW846 8280
2,3,7,8-TCDF	ND	0.26	ng/g	SW846 8280
Total TCDF	**0.20**	--	**ng/g**	**SW846 8280**
1,2,3,7,8-PeCDF	ND	0.29	ng/g	SW846 8280
2,3,4,7,8-PeCDF	ND	0.27	ng/g	SW846 8280
Total PeCDF	ND	0.27	ng/g	SW846 8280
1,2,3,4,7,8-HxCDF	ND	0.020	ng/g	SW846 8280
1,2,3,6,7,8-HxCDF	ND	0.019	ng/g	SW846 8280
2,3,4,6,7,8-HxCDF	ND	0.021	ng/g	SW846 8280
1,2,3,7,8,9-HxCDF	ND	0.022	ng/g	SW846 8280
Total HxCDF	ND	0.019	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDF	ND	0.066	ng/g	SW846 8280
1,2,3,4,7,8,9-HpCDF	ND	0.076	ng/g	SW846 8280
Total HpCDF	ND	0.066	ng/g	SW846 8280
OCDF	ND	0.090	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	(40 - 120)
13C-2,3,7,8-TCDF	85	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	98	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	106	(40 - 120)
13C-OCDD	97	(40 - 120)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

QC DATA ASSOCIATION SUMMARY

G0I280336

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8280		0292485	
	SOLID	ASTM D 2216-90		0279523	
002	SOLID	SW846 8280		0276488	
	SOLID	ASTM D 2216-90		0279523	
003	SOLID	SW846 8280		0276488	
	SOLID	ASTM D 2216-90		0279523	

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 Work Order #...: DLELG101 Matrix.....: SOLID
MB Lot-Sample #: G0J020000-488

Prep Date.....: 09/30/00
Analysis Date..: 10/03/00 Prep Batch #...: 0276488
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.057	ng/g	SW846 8280
Total TCDD	ND	0.057	ng/g	SW846 8280
1,2,3,7,8-PeCDD	ND	0.75	ng/g	SW846 8280
Total PeCDD	ND	0.75	ng/g	SW846 8280
1,2,3,4,7,8-HxCDD	ND	0.060	ng/g	SW846 8280
1,2,3,6,7,8-HxCDD	ND	0.062	ng/g	SW846 8280
1,2,3,7,8,9-HxCDD	ND	0.058	ng/g	SW846 8280
Total HxCDD	ND	0.058	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDD	ND	0.056	ng/g	SW846 8280
Total HpCDD	ND	0.056	ng/g	SW846 8280
OCDD	ND	0.079	ng/g	SW846 8280
2,3,7,8-TCDF	ND	0.066	ng/g	SW846 8280
Total TCDF	ND	0.066	ng/g	SW846 8280
1,2,3,7,8-PeCDF	ND	0.13	ng/g	SW846 8280
2,3,4,7,8-PeCDF	ND	0.12	ng/g	SW846 8280
Total PeCDF	ND	0.12	ng/g	SW846 8280
1,2,3,4,7,8-HxCDF	ND	0.033	ng/g	SW846 8280
1,2,3,6,7,8-HxCDF	ND	0.032	ng/g	SW846 8280
2,3,4,6,7,8-HxCDF	ND	0.035	ng/g	SW846 8280
1,2,3,7,8,9-HxCDF	ND	0.036	ng/g	SW846 8280
Total HxCDF	ND	0.032	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDF	ND	0.074	ng/g	SW846 8280
1,2,3,4,7,8,9-HpCDF	ND	0.085	ng/g	SW846 8280
Total HpCDF	ND	0.074	ng/g	SW846 8280
OCDF	ND	0.088	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(40 - 120)
13C-2,3,7,8-TCDF	76	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	95	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	115	(40 - 120)
13C-OCDD	102	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 **Work Order #...:** DND0G1AA **Matrix.....:** SOLID
MB Lot-Sample #: G0J180000-485

Prep Date.....: 10/16/00
Analysis Date..: 10/18/00 **Prep Batch #...:** 0292485
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.051	ng/g	SW846 8280
Total TCDD	ND	0.051	ng/g	SW846 8280
1,2,3,7,8-PeCDD	ND	0.15	ng/g	SW846 8280
Total PeCDD	ND	0.59	ng/g	SW846 8280
1,2,3,4,7,8-HxCDD	ND	0.11	ng/g	SW846 8280
1,2,3,6,7,8-HxCDD	ND	0.10	ng/g	SW846 8280
1,2,3,7,8,9-HxCDD	ND	0.096	ng/g	SW846 8280
Total HxCDD	ND	0.096	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDD	ND	0.14	ng/g	SW846 8280
Total HpCDD	ND	0.14	ng/g	SW846 8280
OCDD	ND	0.096	ng/g	SW846 8280
2,3,7,8-TCDF	ND	0.090	ng/g	SW846 8280
Total TCDF	ND	0.090	ng/g	SW846 8280
1,2,3,7,8-PeCDF	ND	0.21	ng/g	SW846 8280
2,3,4,7,8-PeCDF	ND	0.20	ng/g	SW846 8280
Total PeCDF	ND	0.20	ng/g	SW846 8280
1,2,3,4,7,8-HxCDF	ND	0.057	ng/g	SW846 8280
1,2,3,6,7,8-HxCDF	ND	0.050	ng/g	SW846 8280
2,3,4,6,7,8-HxCDF	ND	0.059	ng/g	SW846 8280
1,2,3,7,8,9-HxCDF	ND	0.056	ng/g	SW846 8280
Total HxCDF	ND	0.050	ng/g	SW846 8280
1,2,3,4,6,7,8-HpCDF	ND	0.064	ng/g	SW846 8280
1,2,3,4,7,8,9-HpCDF	ND	0.082	ng/g	SW846 8280
Total HpCDF	ND	0.064	ng/g	SW846 8280
OCDF	ND	0.11	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(40 - 120)
13C-2,3,7,8-TCDF	63	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	84	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	97	(40 - 120)
13C-OCDD	72	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 **Work Order #...:** DLELG102 **Matrix.....:** SOLID
LCS Lot-Sample#: G0J020000-488
Prep Date.....: 09/30/00 **Analysis Date..:** 10/05/00
Prep Batch #...: 0276488
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	**2.50**	**2.66**	**ng/g**	**106**	**SW846 8280**
1,2,3,7,8-PeCDD	**6.25**	**7.80 a**	**ng/g**	**125**	**SW846 8280**
1,2,3,6,7,8-HxCDD	**6.25**	**6.54**	**ng/g**	**105**	**SW846 8280**
1,2,3,4,6,7,8-HpCDD	**6.25**	**7.19**	**ng/g**	**115**	**SW846 8280**
OCDD	**12.5**	**13.1**	**ng/g**	**105**	**SW846 8280**
2,3,7,8-TCDF	**2.50**	**2.65**	**ng/g**	**106**	**SW846 8280**
1,2,3,7,8-PeCDF	**6.25**	**7.51 a**	**ng/g**	**120**	**SW846 8280**
1,2,3,6,7,8-HxCDF	**6.25**	**6.66**	**ng/g**	**106**	**SW846 8280**
1,2,3,4,6,7,8-HpCDF	**6.25**	**6.71**	**ng/g**	**107**	**SW846 8280**
OCDF	**12.5**	**12.4**	**ng/g**	**99**	**SW846 8280**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	(40 - 120)
13C-2,3,7,8-TCDF	76	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	95	(40 - 120)
13C-OCDD	103	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 **Work Order #...:** DND0G1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G0J180000-485
Prep Date.....: 10/16/00 **Analysis Date..:** 10/18/00
Prep Batch #...: 0292485
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	2.50	2.61	ng/g	104	SW846 8280
1,2,3,7,8-PeCDD	6.25	6.64	ng/g	106	SW846 8280
1,2,3,6,7,8-HxCDD	6.25	6.63	ng/g	106	SW846 8280
1,2,3,4,6,7,8-HpCDD	6.25	6.62	ng/g	106	SW846 8280
OCDD	12.5	13.6	ng/g	109	SW846 8280
2,3,7,8-TCDF	2.50	2.47	ng/g	99	SW846 8280
1,2,3,7,8-PeCDF	6.25	6.48	ng/g	104	SW846 8280
1,2,3,6,7,8-HxCDF	6.25	6.59	ng/g	105	SW846 8280
1,2,3,4,6,7,8-HpCDF	6.25	6.48	ng/g	104	SW846 8280
OCDF	12.5	12.8	ng/g	103	SW846 8280

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	76	(40 - 120)
13C-2,3,7,8-TCDF	78	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	87	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	82	(40 - 120)
13C-OCDD	84	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 **Work Order #...:** DLELG102 **Matrix.....:** SOLID
LCS Lot-Sample#: G0J020000-488
Prep Date.....: 09/30/00 **Analysis Date..:** 10/05/00
Prep Batch #...: 0276488
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	106	(70 - 115)	SW846 8280
1,2,3,7,8-PeCDD	125 a	(71 - 116)	SW846 8280
1,2,3,6,7,8-HxCDD	105	(78 - 116)	SW846 8280
1,2,3,4,6,7,8-HpCDD	115	(73 - 121)	SW846 8280
OCDD	105	(74 - 112)	SW846 8280
2,3,7,8-TCDF	106	(76 - 108)	SW846 8280
1,2,3,7,8-PeCDF	120 a	(73 - 112)	SW846 8280
1,2,3,6,7,8-HxCDF	106	(68 - 119)	SW846 8280
1,2,3,4,6,7,8-HpCDF	107	(72 - 110)	SW846 8280
OCDF	99	(73 - 110)	SW846 8280

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	(40 - 120)
13C-2,3,7,8-TCDF	76	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	95	(40 - 120)
13C-OCDD	103	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G0I280336 **Work Order #...:** DND0G1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G0J180000-485
Prep Date.....: 10/16/00 **Analysis Date..:** 10/18/00
Prep Batch #...: 0292485
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**104**	**(70 - 115)**	**SW846 8280**
1,2,3,7,8-PeCDD	**106**	**(71 - 116)**	**SW846 8280**
1,2,3,6,7,8-HxCDD	**106**	**(78 - 116)**	**SW846 8280**
1,2,3,4,6,7,8-HpCDD	**106**	**(73 - 121)**	**SW846 8280**
OCDD	**109**	**(74 - 112)**	**SW846 8280**
2,3,7,8-TCDF	**99**	**(76 - 108)**	**SW846 8280**
1,2,3,7,8-PeCDF	**104**	**(73 - 112)**	**SW846 8280**
1,2,3,6,7,8-HxCDF	**105**	**(68 - 119)**	**SW846 8280**
1,2,3,4,6,7,8-HpCDF	**104**	**(72 - 110)**	**SW846 8280**
OCDF	**103**	**(73 - 110)**	**SW846 8280**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	76	(40 - 120)
13C-2,3,7,8-TCDF	78	(40 - 120)
13C-1,2,3,6,7,8-HxCDD	87	(40 - 120)
13C-1,2,3,4,6,7,8-HpCDF	82	(40 - 120)
13C-OCDD	84	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

SOLID, D 2216-90, Moisture, Percent

RMT

Client Sample ID: DSL8

General Chemistry

Lot-Sample #...: G0I280336-001 Work Order #...: DL8J6 Matrix.....: SOLID
Date Sampled...: 09/25/00 Date Received..: 09/28/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	11.1	0.10	%	ASTM D 2216-90	10/03-10/04/00	0279523

Dilution Factor: 1

RMT

Client Sample ID: SL71-8'

General Chemistry

Lot-Sample #...: G0I280336-002 Work Order #...: DL8J7 Matrix.....: SOLID
Date Sampled...: 09/25/00 Date Received..: 09/28/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	12.0	0.10	%	ASTM D 2216-90	10/03-10/04/00	0279523

Dilution Factor: 1

RMT

Client Sample ID: SL68-8'

General Chemistry

Lot-Sample #...: G0I280336-003 Work Order #...: DL8J8 Matrix.....: SOLID
Date Sampled...: 09/25/00 Date Received..: 09/28/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	14.1	0.10	%	ASTM D 2216-90	10/03-10/04/00	0279523

Dilution Factor: 1